SearchSploit Security Assessment Project

Complete Guide for Vulnerability Research and Exploit Database Analysis

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Project Overview

What This Project Covers

This comprehensive guide demonstrates the use of SearchSploit for vulnerability research, exploit database analysis, and security assessment within a controlled Kali Linux environment running on Oracle VirtualBox. The project follows industry standards and compliance frameworks to ensure professional-grade security analysis.

Learning Objectives

- Master SearchSploit for vulnerability research
- Understand exploit database navigation and analysis
- Identify security vulnerabilities in software and services
- Apply security frameworks (NIST CSF, ISO 27001)

- Develop professional security assessment skills
- Learn to correlate vulnerability information with real-world threats

Definition and Purpose

What is SearchSploit?

SearchSploit is a command-line tool that serves as an offline interface to the Exploit Database (Exploit-DB). It allows security professionals and penetration testers to search for exploits, shellcodes, and vulnerability information without requiring an internet connection.

Core Components

1. **Exploit Database**: A comprehensive archive of public exploits and corresponding vulnerable software
2. **Command-Line Interface**: Efficient search and filtering capabilities
3. **Local Repository**: Offline access to thousands of exploits
4. **Integration Capabilities**: Works seamlessly with other security tools

Primary Use Cases

- **Vulnerability Research**: Identifying known vulnerabilities in target systems
- **Penetration Testing**: Finding applicable exploits during authorized assessments
- **Security Auditing**: Verifying patch levels and security posture
- **Threat Intelligence**: Understanding attack vectors and exploit availability
- **Security Training**: Learning about vulnerability exploitation techniques

Importance in Cybersecurity

SearchSploit is critical because it:

- Provides immediate access to exploit information without internet dependency
- Helps security professionals stay informed about vulnerabilities
- Enables proactive security measures by identifying potential attack vectors
- Supports compliance requirements for vulnerability management

- Facilitates faster incident response and threat assessment

Prerequisites and Setup

System Requirements

Hardware Requirements

- **RAM**: Minimum 2GB (4GB recommended)
- **Storage**: 20GB available space
- **Processor**: 64-bit dual-core or better

Software Requirements

- **Operating System**: Kali Linux (latest version recommended)
- **Virtualization**: Oracle VirtualBox 6.0 or higher
- **Network**: NAT or Bridged network configuration

Installation Steps

Step 1: Verify Kali Linux Installation

bash

Check Kali version

cat /etc/os-release

Update system

sudo apt update && sudo apt upgrade -y

Step 2: Verify SearchSploit Installation

SearchSploit comes pre-installed with Kali Linux. Verify installation:

bash

Check SearchSploit version

searchsploit --version

Check installation path

which searchsploit

View help menu

searchsploit --help

```
┌──(bjnetwork㉿bjnetwork)-[~]
└─$ searchsploit --version
/usr/bin/searchsploit: illegal option -- -
  Usage: searchsploit [options] term1 [term2] ... [termN]

==========
 Examples
==========
  searchsploit afd windows local
  searchsploit -t oracle windows
  searchsploit -p 39446
  searchsploit linux kernel 3.2 --exclude="(PoC)|/dos/"
  searchsploit -s Apache Struts 2.0.0
  searchsploit linux reverse password
  searchsploit -j 55555 | jq
  searchsploit --cve 2021-44228

  For more examples, see the manual: https://www.exploit-db.com/searchsploit

==========
 Options
==========
## Search Terms
   -c, --case     [term]      Perform a case-sensitive search (Default is inSE
   -e, --exact    [term]      Perform an EXACT & order match on exploit title
                                e.g. "WordPress 4.1" would not be detect "Word
   -s, --strict               Perform a strict search, so input values must ex
                                e.g. "1.1" would not be detected in "1.0 < 1.3
   -t, --title    [term]      Search JUST the exploit title (Default is title
       --exclude="term"       Remove values from results. By using "|" to sepa
                                e.g. --exclude="term1|term2|term3"
       --cve      [CVE]       Search for Common Vulnerabilities and Exposures
```

Step 3: Update Exploit Database

bash

Update the local exploit database

sudo searchsploit -u

Verify update

ls -lh /usr/share/exploitdb/

Step 4: Configure Working Environment

bash

Create project directory

mkdir -p ~/searchsploit-project/{reports,evidence,logs}

Navigate to project directory

cd ~/searchsploit-project

Create documentation file

touch assessment-notes.txt

Step-by-Step Implementation

Phase 1: Environment Preparation

Step 1.1: System Verification

bash

Verify network connectivity

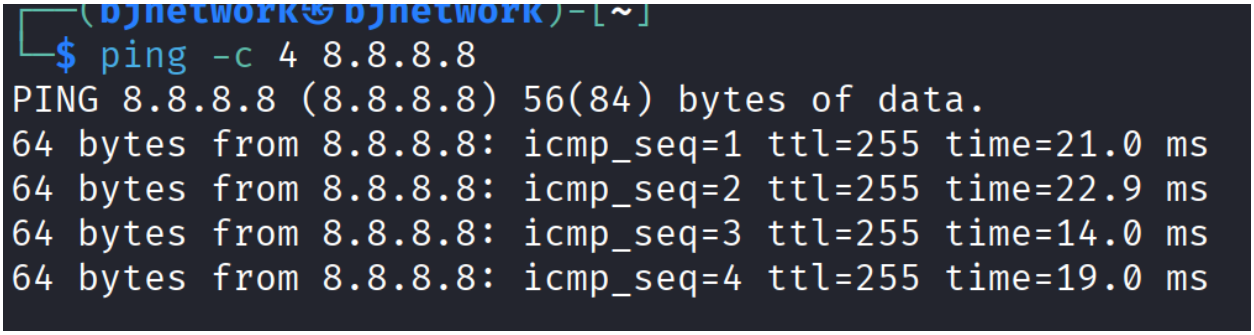
ping -c 4 8.8.8.8

Check available disk space

df -h

Verify exploit database location

ls -lah /usr/share/exploitdb/exploits/



Step 1.2: Database Statistics

bash

Count total exploits

searchsploit --stats

View database path

searchsploit --path

Phase 2: Basic SearchSploit Operations

Step 2.1: Simple Search Operations

bash

Search for specific software

searchsploit apache

```
└─$ searchsploit apache
```

Exploit Title	Path
Apache (Windows x86) - Chunked Encoding (Metasploit)	windows_x86/remote/16782.rb
Apache + PHP < 5.3.12 / < 5.4.2 - cgi-bin Remote Code Execution	php/remote/29290.c
Apache + PHP < 5.3.12 / < 5.4.2 - Remote Code Execution + Scanner	php/remote/29316.py
Apache - Arbitrary Long HTTP Headers (Denial of Service)	multiple/dos/360.pl
Apache - Arbitrary Long HTTP Headers Denial of Service	linux/dos/371.c

Search for specific version

searchsploit apache 2.4

```
└─$ searchsploit apache 2.4
```

Exploit Title	Path
Apache + PHP < 5.3.12 / < 5.4.2 - cgi-bin Remote Code Execution	php/remote/29290.c
Apache + PHP < 5.3.12 / < 5.4.2 - Remote Code Execution + Scanner	php/remote/29316.py
Apache 2.2.4 - 413 Error HTTP Request Method Cross-Site Scripting	unix/remote/30835.sh
Apache 2.4.17 - Denial of Service	windows/dos/39037.php
Apache 2.4.17 < 2.4.38 - 'apache2ctl graceful' 'logrotate' Local Privilege Escalation	linux/local/46676.php
Apache 2.4.23 mod_http2 - Denial of Service	linux/dos/40909.py

Search for specific platform

searchsploit windows

```
┌──(bjnetwork㉿bjnetwork)-[~]
└─$ searchsploit windows
```

Exploit Title	Path
(Gabriel's FTP Server) Open & Compact FTP Server 1.2 - 'PORT' Remote Denial of Service	windows/dos/12698.py
(Gabriel's FTP Server) Open & Compact FTP Server 1.2 - Authentication Bypass / Directory Traversal SAM Re	windows/remote/27401.py
(Gabriel's FTP Server) Open & Compact FTP Server 1.2 - Full System Access	windows/remote/13932.py
(Gabriel's FTP Server) Open & Compact FTP Server 1.2 - Universal Denial of Service	windows/dos/12741.py

Case-insensitive search

searchsploit -t apache

Step 2.2: Advanced Search Techniques

bash

Search with multiple terms

searchsploit apache remote

```
└─$ searchsploit apache remote
```

Exploit Title	Path
ActiveMQ < 5.14.0 - Web Shell Upload (Metasploit)	java/remote/42283.rb
Apache (Windows x86) - Chunked Encoding (Metasploit)	windows_x86/remote/16782.rb
Apache + PHP < 5.3.12 / < 5.4.2 - cgi-bin Remote Code Execution	php/remote/29290.c
Apache + PHP < 5.3.12 / < 5.4.2 - Remote Code Execution + Scanner	php/remote/29316.py
Apache - httpOnly Cookie Disclosure	multiple/remote/18442.html

Exclude terms from search

searchsploit apache --exclude="2.2"

Search in exploit title only

searchsploit -t "privilege escalation"

Search for exact match

searchsploit --exact "Apache 2.4.49"

Step 2.3: Filtering Results

bash

Filter by platform

searchsploit openssh --platform=linux

Filter by type

searchsploit mysql --type=webapps

Combine filters

searchsploit windows --platform=windows --type=local

Phase 3: Examining Exploits

Step 3.1: Viewing Exploit Details

bash

Examine specific exploit

searchsploit -x exploits/linux/remote/12345.txt

Copy exploit to current directory

searchsploit -m exploits/linux/remote/12345.txt

Mirror multiple exploits

searchsploit -m 12345 12346 12347

Step 3.2: Exploit Analysis

bash

View exploit metadata

head -n 50 12345.txt

Search for CVE information

grep -i "CVE" 12345.txt

Check exploit requirements

grep -i "requirement\|prerequisite" 12345.txt

Phase 4: Integration with Nmap Results

Step 4.1: Service Scanning

bash

Perform service scan on target

nmap -sV -oX scan_results.xml 192.168.1.100

Save scan results

nmap -sV -oN scan_output.txt 192.168.1.100

Step 4.2: Automated Vulnerability Matching

bash

Use Nmap XML output with SearchSploit

searchsploit --nmap scan_results.xml

Generate detailed report

searchsploit --nmap scan_results.xml --colour > vulnerability_report.txt

Phase 5: CVE Cross-Referencing

Step 5.1: CVE Database Search

bash

Search by CVE number

searchsploit --cve CVE-2021-44228

Search multiple CVEs

searchsploit --cve CVE-2021-3156

Export CVE information

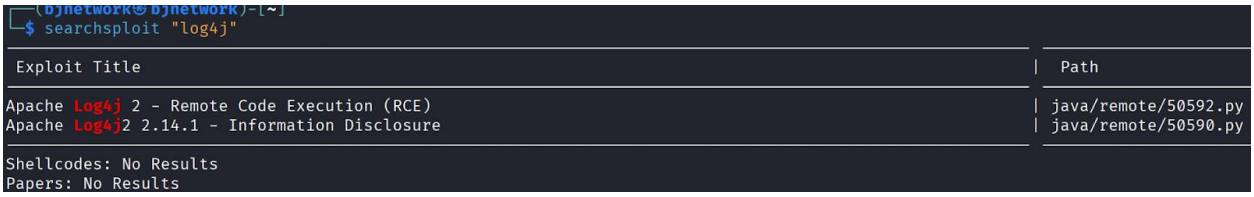
searchsploit --cve CVE-2021-44228 --json > cve_results.json

Step 5.2: Vulnerability Correlation

bash

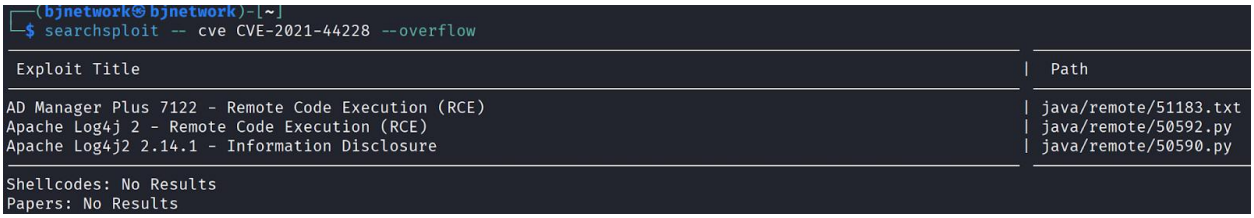
Search for vulnerability name

searchsploit "log4j"



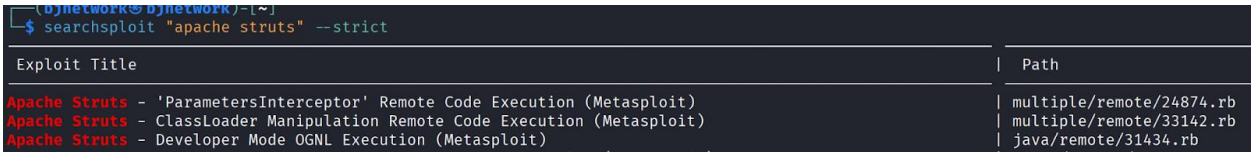
Cross-reference with CVE

searchsploit --cve CVE-2021-44228 --overflow



Check for related exploits

searchsploit "apache struts" --strict



Phase 6: Report Generation

Step 6.1: JSON Output

bash

Generate JSON report

searchsploit apache --json > apache_exploits.json

Pretty print JSON

cat apache_exploits.json | python3 -m json.tool

Filter JSON output

searchsploit windows privilege --json | jq '.RESULTS_EXPLOIT[]'

Step 6.2: XML Output

bash

Generate XML report

searchsploit mysql --xml > mysql_exploits.xml

View XML structure

xmllint --format mysql_exploits.xml | head -n 50

Step 6.3: Comprehensive Documentation

bash

Create detailed assessment report

searchsploit openssh --colour --overflow > openssh_assessment.txt

Add timestamp to report

echo "Assessment Date: $(date)" >> openssh_assessment.txt

Append system information

echo "Target: 192.168.1.100" >> openssh_assessment.txt

Commands Reference

Essential SearchSploit Commands

Basic Search Commands

Command	Purpose	Example
searchsploit <term>	Basic search	searchsploit apache
searchsploit -t <term>	Search title only	searchsploit -t "sql injection"
searchsploit --strict	Strict search mode	searchsploit --strict apache 2.4
searchsploit --exact	Exact match search	searchsploit --exact "Apache 2.4.49"

Filter Commands

Command	Purpose	Example
--exclude="term"	Exclude results	searchsploit apache --exclude="2.2"
--platform=<os>	Filter by platform	searchsploit --platform=linux
--type=<type>	Filter by type	searchsploit --type=remote
--overflow	Show long titles	searchsploit --overflow

Output Commands

Command	Purpose	Example
-x <id>	Examine exploit	searchsploit -x 12345
-m <id>	Mirror/copy exploit	searchsploit -m 12345
--json	JSON output	searchsploit apache --json

--xml	XML output	searchsploit mysql --xml
--www	Online URL	searchsploit apache --www

Integration Commands

Command	Purpose	Example
--nmap <file>	Parse Nmap XML	searchsploit --nmap scan.xml
--cve <CVE>	Search by CVE	searchsploit --cve CVE-2021-44228
-u	Update database	searchsploit -u
--path	Show database path	searchsploit --path

Advanced Search Patterns

bash

Multiple term search (AND logic)

searchsploit term1 term2

Search with wildcards

searchsploit apache*

Search specific versions

searchsploit "apache 2.4.[0-9]"

Combine multiple filters

searchsploit windows privilege --platform=windows --type=local --exclude="vista"

Practical Command Workflows

Workflow 1: Service Assessment

bash

Step 1: Scan target

nmap -sV -oX target_scan.xml 192.168.1.100

Step 2: Cross-reference with exploits

searchsploit --nmap target_scan.xml

Step 3: Export findings

searchsploit --nmap target_scan.xml --json > findings.json

Step 4: Review critical vulnerabilities

searchsploit --nmap target_scan.xml | grep -i "remote\|critical"

Workflow 2: CVE Research

bash

Step 1: Search CVE

searchsploit --cve CVE-2021-44228

Step 2: Examine exploit details

searchsploit --cve CVE-2021-44228 -x

Step 3: Copy exploit locally

searchsploit --cve CVE-2021-44228 -m

Step 4: Document findings

searchsploit --cve CVE-2021-44228 --overflow > cve_analysis.txt

Workflow 3: Software Audit

bash

Step 1: Identify software version

searchsploit "Apache 2.4.49"

Step 2: Review all versions

searchsploit apache 2.4

Step 3: Filter for critical exploits

searchsploit apache 2.4 --type=remote

Step 4: Generate comprehensive report

searchsploit apache 2.4 --json | jq '.RESULTS_EXPLOIT[] | select(.Type == "remote")'